



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,660	01/06/2006	Miwa Okubo	09792909-6521	5305
26263 7590 01/02/2008 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, SEARS TOWER CHICAGO, IL 60606-1080			EXAMINER ZIMMERMANN, JOHN P	
			ART UNIT 2861	PAPER NUMBER
			MAIL DATE 01/02/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,660	Applicant(s) OKUBO, MIWA	
	Examiner John P. Zimmermann	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>30 November 2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) filed 30 November 2007 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance of Foreign Patent Document #4, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The IDS has been placed in the application file and the considered documents have been initialed. Foreign Patent Document #4 "JP 2618359," was not considered and therefore crossed out as the applicant did not provide an English abstract for the document listed.

Drawings

2. The drawings were originally objected to because the original drawings have Figures 5 & 6 as charts, the current specification labels the charts as tables in the specification and lists two tables, formerly labeled Tables 5 & 6 as Figures 5 & 6. The brief description says Figures 5 & 6 are "diagrams" (seem to mean charts), meanwhile the specification speaks to Tables 5 & 6 but then shows the charts. The applicant misunderstood the examiner's objection as to mean the placement of tables in Figures 5 & 6 (09 DEC 2007 Amendment – Page 2, Remarks, Drawings, Lines 1-2). The actual objection is to the inconsistent labeling of the Tables submitted as Figures or Drawings (Figures 5 & 6), the Waveforms submitted as Tables (Specification - Pages 19-20), and the Diagrams listed as Figures or Drawings (Specification – Brief Description of Drawing, Page 5, Lines 13-16). Given the above reiteration of the previous objection, applicant's remarks

are not applicable and the objection stands. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Additionally, the drawings were originally objected to as failing to comply with 37 CFR 1.84(p)(5) because they included the following reference character(s) not mentioned in the description: "S" (Figure #2). As applicant did not address the additional objection, the objection stands. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either

“Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Given that the application is subjected to PCT Rule 11, notably PCT 11.13 Special

Requirements for Drawings:

- (l) Reference signs not mentioned in the description shall not appear in the drawings, and vice versa.
- (m) The same features, when denoted by reference signs, shall, throughout the international application, be denoted by the same signs.

The examiner respectfully points out that this objection in no way “imposes requirements beyond those imposed by the Patent Cooperation Treaty,” and is merely pointing out a specific rule that was not complied with, a rule “to require new drawings if the drawings were published without meeting all of the requirements under the PCT for drawings,” that echoes PCT Rule 11.13.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

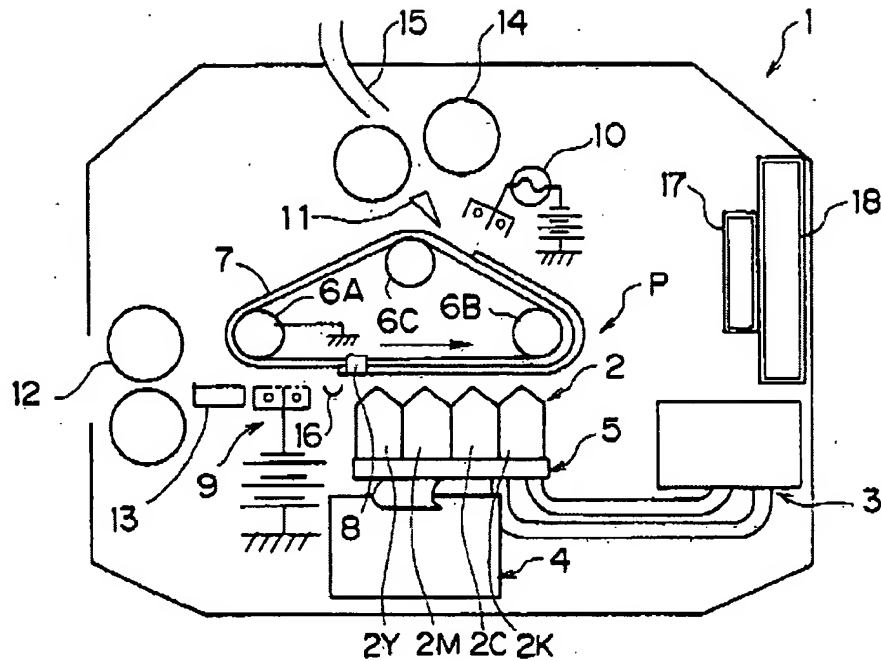
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 1-2 & 4-5** are rejected under 35 U.S.C. 102(e) as being clearly anticipated by

Nakazawa et al., (US 2004/0001134 A1).

- a. As related to independent **claim 1**, Nakazawa et al. teach an ink-jet recording method (Nakazawa et al. – Title) in which recording is executed by discharging inks of a plurality of colors from a discharge opening as droplets of ink to be attached onto a recording material (Nakazawa et al. – Background, Paragraph 5; Summary, Paragraphs 8 & 11 and Detailed Description, Paragraph 58) wherein in the case where the interval between a discharge of an ink of a first color and a discharge of an ink of a second color is 200 mS or less [i.e. $15\text{kHz} = 67\mu\text{S}$ which is less than 200mS] (Nakazawa et al. – Examples, Page 15, Paragraph 138, Specifically the 7th line from the end of the Paragraph), inks whose surface tension is 25 to 45 mN/m at 23° C. are used for said inks of each color (Nakazawa et al. – Detailed Description, Paragraphs 118 & 120).
- b. As related to dependent **claim 2**, Nakazawa et al. teach inks are discharged using a line head (Nakazawa et al. – Detailed Description, Paragraph 91).
- c. As related to independent **claim 4**, Nakazawa et al. teach an ink-jet printer (Nakazawa et al. – Title) in which recording is executed by discharging inks of a plurality of colors from a discharge opening as droplets of ink to be attached onto a recording material (Nakazawa et al. – Background, Paragraph 5; Summary, Paragraphs 8 & 11; Detailed Description, Paragraph 58 and Figure 1, Reference #2Y, #2M, #2C & #2K, shown below).

F I G . 1



d. Continuing with **claim 4**, Nakazawa et al. goes on to teach the case where the interval between a discharge of an ink of a first color and a discharge of an ink of a second color is 200 mS or less [i.e. $15\text{kHz} = 67\mu\text{S}$ which is less than 200mS] (Nakazawa et al. – Examples, Page 15, Paragraph 138, Specifically the 7th line from the end of the Paragraph), inks whose surface tension is 25 to 45 mN/m at 23° C. are used for said inks of each color (Nakazawa et al. – Detailed Description, Paragraphs 118 & 120).

e. As related to dependent **claim 5**, Nakazawa et al. teach inks are discharged using a line head (Nakazawa et al. – Detailed Description, Paragraph 91).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. **Claims 3 & 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nakazawa et al.**, (US 2004/0001134 A1) as applied to **claims 1 & 4** above, and further in view of **Koitaabashi et al.**, (US 2002/0097290 A1).

- a. As related to dependent **claim 3**, Nakazawa et al. teach the limitations of **claim 1** for the reasons above. Additionally, Nakazawa et al. teach a variety of recording material to include high quality papers, micro-coated papers, and dedicated inkjet papers (Nakazawa et al. – Detailed Description, Paragraph 137). Meanwhile, Koitaabashi et al. *specifically* teach recording material with ink absorption amount in 100mS of 15mL/m² or more (Koitaabashi et al. – Detailed Description, Paragraph 61).

b. As related to dependent **claim 6**, Nakazawa et al. teach the limitations of **claim 4** for the reasons above. Additionally, Nakazawa et al. teach a variety of recording material to include high quality papers, micro-coated papers, and dedicated inkjet papers (Nakazawa et al. – Detailed Description, Paragraph 137). Meanwhile, Koitabashi et al. *specifically* teach recording material with ink absorption amount in 100mS of 15mL/m² or more (Koitabashi et al. – Detailed Description, Paragraph 61).

Given the same field of endeavor, specifically an ink-jet recording method and ink-jet recording apparatus, it is apparent that one of ordinary skill in the art at the time the invention was made would have been motivated to combine the method and apparatus of ink-jet recording using any of a variety of recording medium as taught by Nakazawa et al. with the specific ink-jet recording medium as taught by Koitabashi et al., in an effort to use the most effective medium available as an improvement over the existing options at the time particularly in super high speed printers with full line head printing capabilities (Koitabashi et al. – Detailed Description, Paragraph 42).

Response to Arguments

7. Applicant's arguments filed 30 November 2007 have been fully considered but they are not persuasive.

8. With respect to **claim 1**, and therefore **claims 2-3**, which inherently contain all of the limitations of independent **claim 1**, applicant argued that “examiner relies on Nakazawa paragraph 139 in attempt to demonstrate that Nakazawa teaches...” As noted in the above

rejection and as was originally inferred by the previous rejection, Nakazawa et al. teach an interval between a discharge of an ink of a first color and a discharge of an ink of a second color is actually $67\mu\text{S}$ which is less than 200mS . The citation of the exact teaching was merely mistyped as "Paragraph 139," instead of "Paragraph 138," and is corrected in the current action. Given the need to fully consider the references in their entirety, the argument; that a specific citation of a reference is incorrect and therefore the reference as a whole doesn't disclose the limitations, is invalid and the rejection stands. Concerning applicant's argument that "the conditional limitation recited in independent claim 1 is not parseable," examiner submits that Nakazawa et al. clearly teaches the limitation "the interval between a discharge... is 200 mS or less," and by use of the specified "inks whose surface tension is 25 to 45 mN/m at 23° C " in the reference application, Nakazawa et al. continue to teach the further limitation of the claim. As no further arguments were made, all dependent claims have been rejected accordingly.

9. With respect to **claim 4**, and therefore **claims 5-6**, which inherently contain all of the limitations of independent **claim 4**, applicant argued that "examiner relies on Nakazawa paragraph 139 in attempt to demonstrate that Nakazawa teaches..." As noted in the above rejection and as was originally inferred by the previous rejection, Nakazawa et al. teach an interval between a discharge of an ink of a first color and a discharge of an ink of a second color is actually $67\mu\text{S}$ which is less than 200mS . The citation of the exact teaching was merely mistyped as "Paragraph 139," instead of "Paragraph 138," and is corrected in the current action. Given the need to fully consider the references in their entirety, the argument; that a specific citation of a reference is incorrect and therefore the reference as a whole doesn't disclose the limitations, is invalid and the rejection stands. Concerning applicant's argument that "the

conditional limitation recited in independent claim 1 is not parseable," examiner submits that Nakazawa et al. clearly teaches the limitation "the interval between a discharge... is 200 mS or less," and by use of the specified "inks whose surface tension is 25 to 45 mN/m at 23° C" in the reference application, Nakazawa et al. continue to teach the further limitation of the claim. As no further arguments were made, all dependent claims have been rejected accordingly.

Conclusion

10. **Examiner's Note:** Examiner has cited particular Figures & Reference Numbers, Columns, Paragraphs and Line Numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Application/Control Number:
10/563,660
Art Unit: 2861

Page 11

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Zimmermann whose telephone number is 571-270-3049. The examiner can normally be reached on Monday - Thursday, 7:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on 571-272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPZ
JPZ



MATTHEW LUU
SUPERVISORY PATENT EXAMINER